Feb/04/2004

CARBON-CARBON SPECIMEN DESIGN SPECS

FMI
Attn: Keith Meiler

I am attaching a REFINED specimen description for the **CARBON-CARBON composite**specimens with a **REVISED** total number of specimens.

After reviewing the experimental set-up and the availability of volume of material we can put in the proton beam, the following quantities of specimens will be necessary:

C/C TENSILE specimens (principal orientation) = **24**
C/C CTE specimens (principal orientation) = **13**
C/C TENSILE specimens (X/Y 45 deg. orient.) = **24**
C/C CTE specimens (X/Y 45 deg. orient.) = **13**

The dimensions and tolerances are shown on the corresponding figures, including the number of specimens we will need to fabricate for each type.

NOTE-1

- The tensile specimen **thickness** for both orientations = **3mm**
- **The CTE** specimen thickness for both orientations = **3mm**
- The **neck-down** section for both tensile specimen orientations = **3mm**
- The corresponding central section of the CTEs = **4mm**

NOTE –2
The alignment 1.0mm diameter THRU holes are there to assist the fabrication. If the machine shop feels that they can do it without the holes, then the holes can be ignored.
If the holes must be made, the diameter DOES NOT have to be 1.0mm but something close to it that is achievable at the shop.

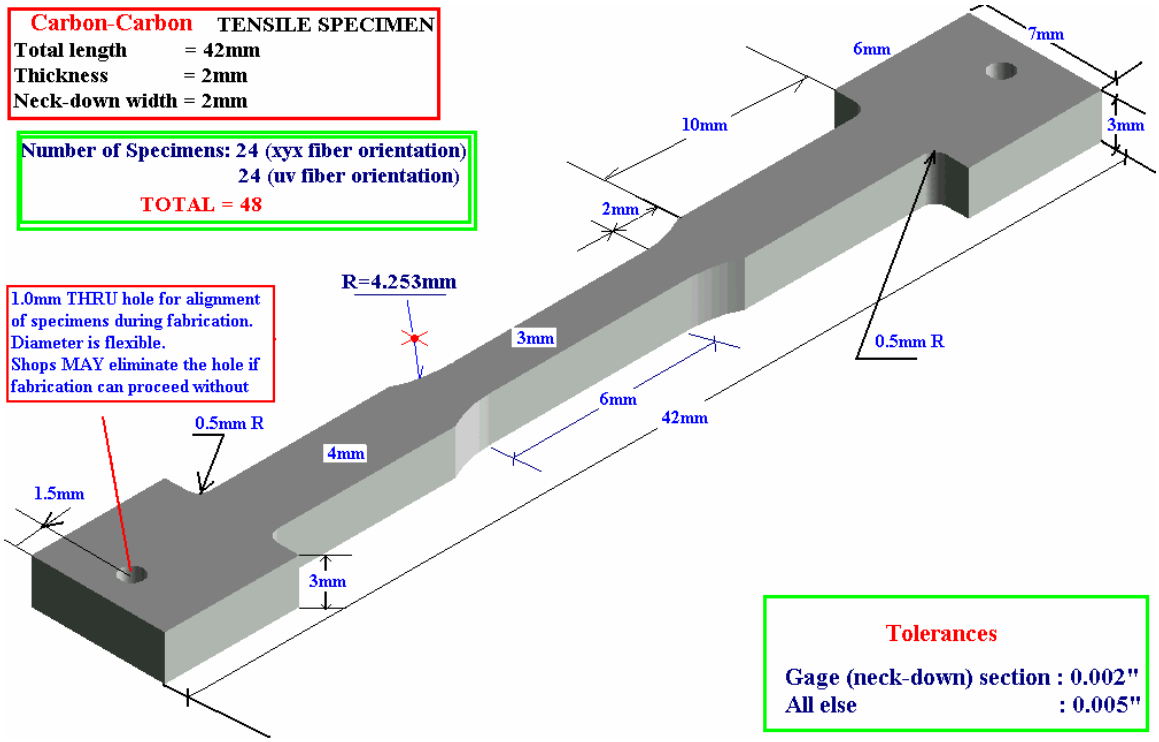

Figure 1. Carbon-Carbon Tensile Specimen

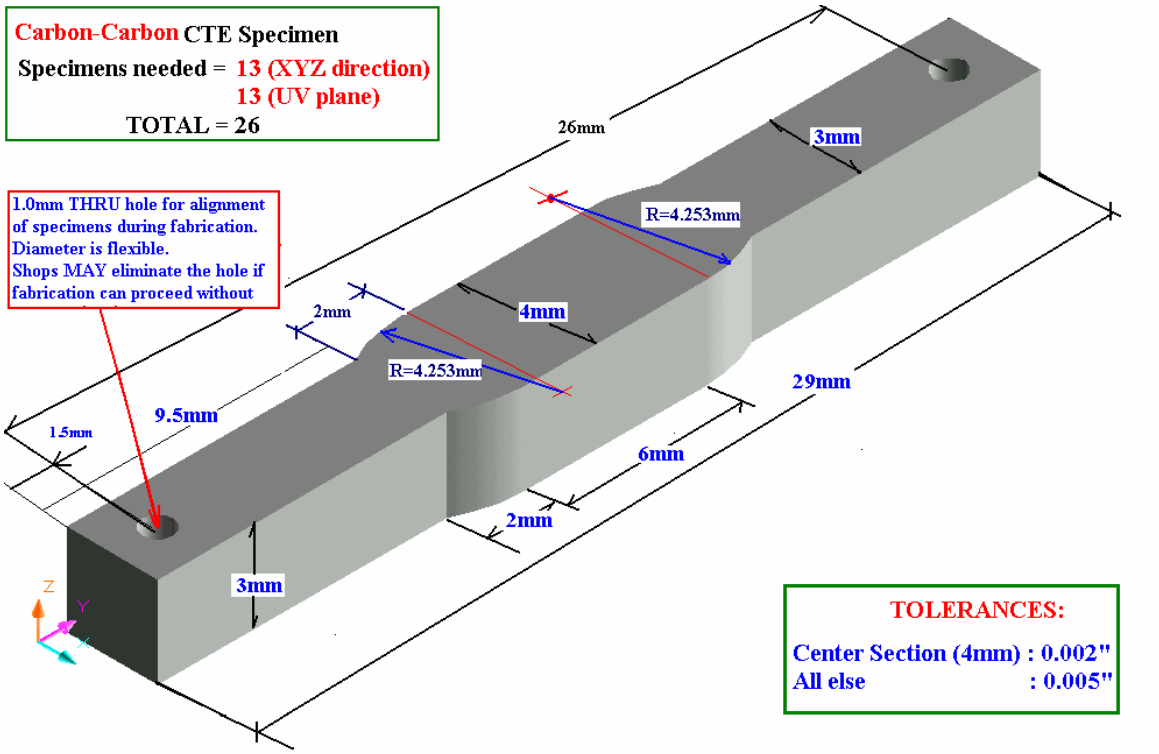

Figure 2. C/C CTE Specimen